



Looking to the future

With the chemical distribution sector changing rapidly, we consider what it could look like a few decades from now, with technology, the environment and diversity key priorities

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Using a road atlas or calling the office from a pay-phone sound like fairly archaic practices nowadays, yet both used to be standard activities among all our members over the past 50 years.

NACD has been doing a lot of reminiscing as we have celebrated our anniversary this year but with the speed at which our businesses – and indeed, the world in general – are changing, it is hard to envision the extent to which the industry will evolve over the next 50 years.

One thing that is certain is technological advancements will continue transforming every aspect of the job – whether production and



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transportation or the way orders are placed and records are kept.

An increasingly diverse workforce, particularly in higher management positions, as well as an improved work-life balance, are likely to be among the more positive changes to occur in the future.

A collaborative effort in tackling climate change will also surely be key in the years to come. The industry has already committed to finding sustainable alternatives to many of its processes and products, and many companies have set ambitious targets and goals.

TECHNOLOGICAL ADVANCES

While the chemical industry has certainly transformed over the last few decades, it is yet to fully embrace some of the technological tools already integrated in other sectors. Completing transactions online is one such example.

“The chemical industry has been slow to move towards e-commerce, while it has become a normal part of our everyday lives as consumers,” says Amelia Greene, global product manager at Wego Chemical Group. “I expect that the

chemical industry will become more dependent on a singular e-commerce marketplace as more millennials, and the following generations that grew up heavily connected to technology, come into the workforce.”

Greene also expects the emergence of an e-based marketplace leader for supply-chain and logistics solutions. This need has certainly been highlighted by all the recent transportation hurdles hitting the sector.

Chemical companies have also been lagging in the use of software solutions in their daily tasks.

“I expect to see a more streamlined software-based approach to how we run our business, source materials, and manage our customers,” says Patrick Hess, vice president at JR Hess Company.

Others also stress the increasing role digitalization is set to play as the sector evolves.

“Automating everyday tasks allows you to maximize productivity while keeping operations lean,” says Tom Jackson, president of Datacor. “The more of your processes you can digitize, the more adaptable you’ll be to changing market conditions.”



aspects of the job, for example, those involving price negotiations where the case-by-case scenario may vary considerably.

SUSTAINABLE SOLUTIONS

The industry is also expected to undertake a major transition towards sustainable production in the next few decades. This will involve switching to environmentally friendly alternatives in each stage of the production and transportation cycles.

Reducing waste during manufacturing is one of the first steps in that direction that industry professionals expect to see.

"Companies are seeking efficiencies in chemical production by requesting solutions with recycling capabilities to reduce overall waste," says Hardman. Such solutions already exist in the market and are gaining popularity. One such example is modular chemical blending and dilution systems that allow for water or raw material reuse to limit production discharge.

The transportation process can also be made eco-friendlier. The industry has already taken a step in that direction by embracing the use of returnable containers. Instead of dumping their drums once product is delivered, customers can ship them back. The containers come with a deposit that is repaid when the drums are returned. The process can easily be navigated with the use of specialized digital tools.

"Your software, like Datacor ERP and TrackAbout, can track all the charges associated with these containers, including accounting, deposits, how many drums a customer has, and how many they'll be picking up," says Jackson.

In addition, chemical producers and distributors are set to start gradually substituting their traditional chemical portfolios with bio-based alternatives.

There is already enough evidence of the industry's commitment to a greener production, according to Hess.

"Our suppliers are constantly innovating in this category, whether it's creating products from bio-based feedstocks, developing biodegradable ingredient replacements, or promoting additives that reduce emissions," he says.

Hardman echoes this opinion, while also stressing that the chemical industry is not only expected to take care of its own green targets, but also to lead the charge for other businesses.

Although this sustainability transition has been initiated by government intervention, Greene is positive that the sector is now committed enough to complete the initiative on its own.

"From a long-term perspective, I think organizations are taking corporate responsibility into their own hands and rallying as an industry around more ambitious climate goals and severely re-

duced or neutral carbon emissions," she says.

Making sure chemicals are handled with care during production and transportation is another key element of making the sector truly sustainable. "We expect to see a greater emphasis in safety solutions to mitigate catastrophes that have a profound impact on the environment, such as chemical leaks and spills," says Hardman.

There are several ways for businesses in the sector to reduce their day-to-day carbon footprint, such as using alternative energy sources at offices and production facilities, controlling water usage, and switching to recycled materials. These are all expected to generate some positive returns to the businesses.

"The benefits may come in the form of lower operating costs, grant and rebate eligibility, meeting stricter regulatory standards, and fostering a better relationship with the surrounding community," suggests Hess.

A NEW WORK CULTURE

The petrochemical industry remains something of a laggard with respect to gender and ethnic diversity and this is one area that many expect to be developed in the coming years.

"I have often found myself as one of the only women in the sales functions and have never worked at an organization with a woman in the C-suite," notes Greene.

Only around a third of the people employed in the chemical industry in the U.S. in 2020 were women, according to statistics published by the Bureau of Labor. The gender distribution was near equal in pharmaceuticals and cosmetics markets but is particularly uneven in the industrial sector.

"These statistics encouraged me to co-found a non-profit called Women in Chemicals Incorporated that has a mission to create and identify opportunities to empower women in the chemical industry," Greene adds.

"I hope in the coming 50 years, we will see more diversity throughout the chemical industry and specifically in leadership."

The chemical industry has also been fairly old-fashioned with regard to flexibility and remote working. However, the pandemic changed this overnight and has proven that work can still be com-



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Using artificial intelligence to analyze data is another step the industry is likely to take, particularly on the sales and procurement side. This may involve using readily available data to generate leads or identifying product development opportunities through pattern recognition algorithms.

Other tools that could be used to improve performance and efficiency in the future include technology that monitors and manages regulatory requirements, and analytical devices that help predict customer needs, as well as specialized training apps for new starters.

Many processes throughout the chain are also likely to become automated in the short to medium term, from order processing and warehouse fulfilment to blending and packaging. This, in turn, will decrease the number of staff currently required for various tasks.

"With labor costs increasing and staffing being a challenge for virtually every company, we expect to see an increase in automation and remote monitoring to decrease the reliance on traditional labor," adds Brent Hardman, CEO at Powell Fabrication and Manufacturing.

Mechanization of processes involved in manufacturing and transportation is likely not only to maximize efficiency, but also improve safety.

"Simply put, fewer people in place means more safety mechanisms are needed," Hardman notes.

Despite an increasing reliance on technology, the sector will continue to need a skilled workforce to navigate all these new advancements.

"Yes, automation will probably play a role, but we'll still need highly skilled people to manage and improve these processes," points out Hess.

Human interaction will remain key in some

pleted efficiently outside the office.

The general expectation is that companies in the sector will continue to allow employees to have more freedom regarding working hours and their main base.

"Moving forward, I think that flexible working schedules and locations will be not only be a benefit but also the norm," says Greene.

Traditional face-to-face communication is also likely to evolve, with technology introducing new ways of sharing data. One example that highlights this trend is the development of platforms that capture production data and share them with customers. Hardman notes that Powell is already offering such a tool.

"It's been helpful to clients because they can access data on the fly from any device, collaborate and make decisions based on real-time data," he says.

But as much as communication with colleagues and customers is evolving and data sharing is becoming more efficient, professionals agree that in-person communication will remain a key aspect of the job.

"Meeting with people and developing long-term relationships is a core aspect of our industry and a major reason why smaller independent companies – like ourselves – continue to thrive," says Hess.

Others echo this opinion, pointing to the importance of face-to-face talks when managing complex or high-value deals and working with sensitive or confidential information.

"The chemical industry is a close-knit industry, and there's significant benefit to meeting in per-

son, whether it be sharing best practices, challenges, or even ideas," adds Hardman.

The distribution industry will also have to overcome other difficulties, some of which are already on the agenda of most businesses. The increasing complexity of supply chains and shortage of specialized infrastructure, for example, make it difficult for chemical distributors to respond to the growing demand.

MANY CHALLENGES AHEAD

Logistical constraints will become even more tangible as the sector inevitably evolves into a global industry where emerging markets, such as Southeast Asia, South and Central America, and Africa, play an increasingly important role.

Climate change will separately continue to strain logistics, with weather anomalies likely to result in production interruptions, rising costs, and decreasing raw material availability.

"This past year, we have faced many supply-chain headwinds, be it from electricity shortages, raw material volatility, ocean vessel shipping space shortages, truck driver shortages, port congestion, etc.," says Greene.

To meet those challenges, chemical distributors will need to be able to apply new skills and have an even deeper understanding of the complexities involved in every step of the production and transportation process.

"We will need to demonstrate even more value on the application side, interfacing with engineers and product developers to learn about their unique formulations and manufacturing processes," says Hess.

"Instead of offering a standard portfolio of commodities or supplier trade names, we'll need to dig deeper into our customers' performance and safety needs and tap into a broader sourcing network to find solutions," he adds.

More near-term challenges will revolve around the various knock-on effects that the pandemic has had on the businesses, be it helping to restore the economy or paying extra attention to employees' wellbeing.

The extraordinary global situation has brought about changes to which many companies are still adapting.

"The pandemic one hundred percent pushed us into a new era of working remotely, forced us to deal with and guide our customers through extraordinary challenges in the supply chain, and reshaped our customer base to some extent," says Hess.

To deal successfully with all these near- and long-term challenges, chemical businesses will need to make sure that future industry leaders receive quality on-the-job and external training.

NACD's Emerging Leaders Program is one such opportunity for young professionals in management roles to receive such training. The program aims to equip managers with practical skills that will help them navigate political situations, enhance staff productivity, and create effective relationships.

"As we continue to face immense challenges in our supply chains and businesses, the network and knowledge gained from Emerging Leaders will give a leg up to all that have participated in the program," concludes Greene. ■



To be adequately prepared for the road ahead, chemical companies will need to ensure their managers receive quality on-the-job training