

Digitization to gain momentum

German companies leading digital maturity



▶ Jing Chen

Digitization, or Industry 4.0, is still in the beginning stages for the chemical industry but expected to gain traction in the next few years driven by competitive pressures, changing customer needs, and an influx of younger workers. Currently, only 23% of chemical industry executives rate their organizations as “well above” or “above average” on digital maturity in relation to their competitors, according to Deloitte’s “Global Digital Chemistry Survey,” where 102 executives from more than 50 chemical companies were interviewed. In the same survey, 38% of respondents expect their organization to be “digital trailblazers” in the next three years, while more than half said that their companies lack an overall digital strategy.

Chemical companies have historically been slow to adopt and implement new solutions as they are mostly asset-driven and typically focus on their core business rather than disruptive ones, but as more executives reach retirement age, something’s got to give, says Ali Amin-Javaheri, vice president of ChemPoint’s marketing and sales. “Companies are hiring younger people who are generally more technologically inclined and have different expectations [in relation to digitization] than

their predecessors.”

Amin-Javaheri adds that industry will start to accelerate digitization efforts when buyers begin demanding it. “Buyers have been trained to tolerate 1980s type of processes, but as older buyers retire and the younger demographic comprises an increasing percentage of the workforce, they will have certain expectations and demands for technology. Once that happens, the [chemical] industry can begin to catch up [with other industries].”

Dominic Prisco, a business development director at consulting firm Consulting Quest, agrees. “More and more millennials are taking over and they want the information

“Millennials are taking over and they want the information now.”

now, and companies will need to adapt.”

European chemical enterprises seem to be digitally maturing faster than their North American and Asian counterparts—which are generally in the developing or early phase of the process, according to Yann Cohen, a principal at Deloitte. Germany, in particular, has taken the lead in tackling digitization in

the industry. The country’s chemical industry employers association BAVC (Wiesbaden) announced in January that it had set up a committee that will focus on determining the overall political direction for chemical companies in relation to digitization while working with social partners to reach a common understanding. The committee will also tackle certain issues specific to digitalization, such as training and furthering education while creating a sound and healthy workplace.

A recent survey from German chemical association VCI indicated that 71% of the participants confirmed that they use digital technologies or consider themselves digital innovators, up from 29% two years ago.

BASF launched “BASF 4.0” in early 2015, a project in which cross-divisional teams will explore digital technology and the intelligent use of data, while testing them in pilot projects before rolling them out across the company. “We want to play a leading role in the digital transformation of the chemical industry,” Frithjof Netzer, senior vice president at BASF, told CW. BASF has said that its digital vision enhances “effectiveness and efficiency through horizontally and vertically connecting value chain data and appl[ies] advanced data analytics to enhance decision making.”

BASF announced on 17 March that it was collaborating with Hewlett Packard (HP, Palo Alto, California) to build one of the world’s largest supercomputers for industrial chemical research at BASF’s Ludwigshafen headquarters this year, which will drive the digitalization of the company’s global research. The new system will make it possible to answer complex questions and reduce the time required to obtain results from several months to days across all research areas. As part of BASF’s digitization strategy, the company plans to “significantly” expand capabilities to run virtual experiments with the supercomputer, which it says will “help reduce time to market and costs by, for example, simulating processes on catalyst surfaces more precisely or accelerating the design of new polymers with predefined properties.”

Evonik in October 2016 became the first chemical company to join the Industrial Internet Consortium (IIC), a public-private

organization formed to accelerate adoption and enablement of the Industrial Internet of Things (IIOT). The company is currently working toward embedding digitization activities at the level of business lines by 2020 following two years of preparation, which includes technology observation, innovation foresight, and overall strategic alignment. Evonik on 7 February 2017 announced that it had also set up a digital subsidiary called Evonik Digital, which focuses on developing new digital business models and building up digital expertise. Henrik Hahn, who was appointed chief digital officer of the division, told CW that implementing digitization has already improved efficiency gains in Evonik's entire supply chain network and administrative processes. "[Digitization] has already changed the way we work from a product and technology-focused [approach] to customer centricity."



HAHN: Digitization improved Evonik's efficiency gains.

Dirk Ramhorst, chief information officer and chief digital officer at Munich-based Wacker Chemie, told CW that the company recently launched a program called Wacker Digital to keep up with the industry's expected digitization transformation. Through the program, Ramhorst says that the company has "identified numerous topics and starting points and entered them on a digital map [which will be a] guideline for our digital activities in the future."

Ramhorst also adds that Wacker has defined "three major areas" the company can implement and benefit from through digitization, which he lists as improving its business model through enhancing customers' digital experience, continuing to digitize operations and processes, and actively engaging in digital transformation, which involves not only the necessary IT infrastructure but also change management and measures that enhance the

company's digital maturity.

Globally, most companies are currently approaching digitization by way of digital marketing, according to Christophe Cabarry, founder and CEO at chemical database firm SpecialChem (Paris). "[The chemical companies] know that customers want to interact with them through digital channels, such as websites, apps, and newsletters."

Digitization lacks traction in industry

Most chemical companies are still in the early stages when it comes to digitization. Companies remain hesitant, citing expected costs of such an overhaul. According to the Deloitte survey, more than 50% of chemical companies lack a digital strategy and transformation roadmap, which it says could be attributed to the industry being asset-heavy and requiring high capital investments. The report also states that chemical companies are also generally unsure about the advantages that can result from a digital revolution and are cautious toward an enterprise-wide digital makeover, limiting companies to



SpecialChem

connect • innovate • accelerate

We Accelerate Your Digitalization

Strategic and operational marketing solutions

Learn more >



Cover story

making only marginal changes to digitally improve existing processes and systems.

Costs associated with digitization

While specific costs related to digitally transforming a company are unclear, both BASF and Wacker told *CW* that the figures are “significant.” Costs could include investments into manpower to drive digital projects, enhancements of IT infrastructure, project-specific expenditures, and employee-related costs such as training. BASF told *CW* that it believes the “benefits [will] outweigh the cost.”

Some experts are also confident that the cost of digital technology will decrease exponentially. Menno van der Zalm, digital business innovation director at AkzoNobel, compares it to DNA sequencing. “Human DNA sequencing cost \$10 million in 2007, and only

\$1,000 in 2014. Performance also simultaneously improved. DNA sequencing took more than a year to complete back in 2007, while it is done in a couple of days or even hours now.”

Amin-Javaheri also insists that the current cost of a digital transformation is much lower than people assume. “The cost of technology has decreased dramatically. The cost of integration has decreased. The cost of building data warehouses has decreased and the cost of data storage itself has decreased.” He adds that the true cost of digitizing a company is actually in “changing company culture, selling [digital technologies] internally so you can get adoption, and finding leadership willing to put



CABARRY: R&D process will be replaced by more agile methods.

their neck out on the line and really spearhead the digital movement.” However, he adds that while those costs may not be trivial, “it’s not a reason to forgo implementation [of digitization].”

The future of digitization

Digital technologies will have an impact through the value chain and in all processes of the industry, including innovation, sourcing, and digital marketing. Cabarry says that in the next several years, digital marketing will likely be sourced from a “continually growing interconnection of data sources from within the company,” such as through client and market information, with data coming from sales and digital interactions, and will involve “intelligent websites” with personalization. Cabarry says that R&D, which currently uses the stage-gate process, in which a product goes through specific steps before launching to the public, will instead be replaced by more “agile methodologies.” The new R&D pipelines will be based on “rapid and frequent interaction loops with the market, and will be much more porous to external influences, using digital channels to interact with the market.”

“I am surprised that no company has dared to become a plant-less company, focusing on selling chemical solutions, while outsourcing production to low-cost countries,” Cabarry adds. ■



WSA2017

WORLD SODA ASH CONFERENCE

Hotel Dubrovnik Palace | Dubrovnik, Croatia
September 19-21, 2017

REGISTER NOW

Join us for the annual World Soda Ash Conference in beautiful Dubrovnik. Gain the latest insight and deep analysis into the soda ash industry as you network with industry professionals and IHS Markit experts on the stunning Dalmatian Coast.

Global Opportunities in a New Soda Ash Era

M&A activity in recent years have resulted in a change in industry participants. A wave of new capacity is about to hit the market, while the industry grapples with uncertainty in demand growth.

In this era of change, where are the opportunities to succeed? How can market players position themselves for success?

The conference takes place on 20th – 21st September, and is preceded by our Soda Ash Workshop on the 19th September.

For more information

www.ihsmarkit.com/WSA2017

LYNN URBAN

DELEGATE SALES

T +1 303 397 2801

E Lynn.Urban@ihsmarkit.com

BEN KINBERG

PARTNERSHIP OPPORTUNITIES

T (212) 425 8116

M (917) 399 3911

E Ben.Kinberg@ihsmarkit.com

