Return of the Human Touch in Industry 5.0

People will once again Play a more Important Role in Production

Like many other industries, the chemical industry has focused heavily on the digitalization of production facilities in recent years. Industry 4.0 saw many companies investing in cyber-physical systems, data processing and cloud computing to create highly efficient production environments. However, the evolution continues, and now, through Industry 5.0, the skills and creativity of humans will once again play a more important role in production — supported by cognitive assistance systems.

Humans have clearly played a subordinate role in the concepts associated with Industry 4.0 without their importance in the process industry really being taken into account. As we move forward, ongoing development in the field of artificial intelligence (AI) is opening up many new opportunities for collaboration between machines and humans. AI is already being used in research and development, for example.

In the area of production, however, machine collaboration — or in other words, machine-assisted humans — is still in its infancy. But here, too, human skills remain indispensable, for example, when it comes to finding creative solutions to unexpected problems or even managing global crises. Humans, not computers, were in the driving seat in rapidly adapting to the ever-changing situation caused by the Covid-19 pandemic.

Is the time now right for humans to regain greater responsibility in chemical processing plants?

Machine Collaboration in Production

At its core, Industry 5.0 is about production processes being controlled by

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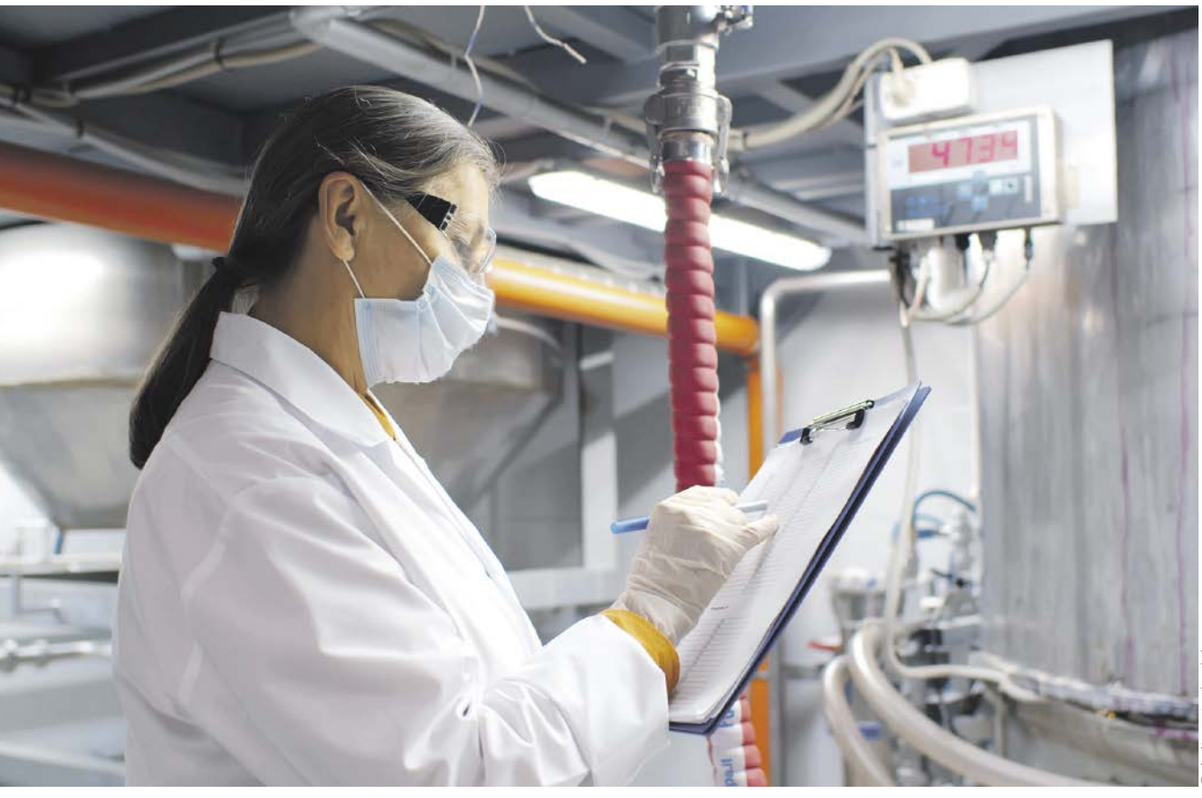
people supported by efficient cognitive assistance systems, such as the Shiftconnector software platform. After all, only when more and more data is available can humans work together with machines — as a team — and make the necessary decisions on a sound basis. In other words, machine-to-machine and human-to-machine communication must be expanded to include digitally supported, integrated communication between employees. The chemical industry will benefit from this approach in many ways, such as safer processes, higher productivity and resource efficiency.

Software solutions that support staff during shift handover are already on the market, but mostly only meet the requirements of Industry 4.0. In the future, it will be important to network the cyber-physical and human levels more closely, not only during shift handover, but also, for example, in Overall Equipment Effectiveness (OEE) reporting. To achieve this, the knowledge and communication of all stakeholders, such as rotating and day shift teams, production and site managers, as well as the company's top management, must be largely digitized to ensure complete transparency for all.

Plant Process Management (PPM) is one approach that can achieve this. It ensures clearly structured processes in operational control and corporate communication and can be used regardless of the degree of implementation of Industry 4.0 concepts. Information from every point in a production process can be captured, analyzed and integrated into other mission-critical systems such as Enterprise Resource Planning (ERP), maintenance management and production planning.

Industry 5.0 Is the Future

Industry 5.0 makes it possible to harness the skills and creativity of people to improve the safety and productivity of processes. But they certainly won't lack support. AI-supported technologies will be close at hand and, with extensive networking, will enable maximum interaction between humans and machines and also between employees. Shift personnel in chemical production plants will continue to work around the clock but will have to perform fewer and fewer routine tasks. This offers the industry the opportunity to create new, attractive jobs. Furthermore, in the future, it will become natural for employees to delegate more complex tasks to machines, much like the increasing interaction with voice-activated smart speakers and home appliances. But at the end of the day, it will continue to be the human, and not the machine that carries the ultimate responsibility of success or failure.



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