

Automation, precision and efficiency: kuka

Business



Introduction Automotive robots have revolutionized manufacturing, with high precision, accuracy, efficiency, quickness, intelligence, and coachability, and they have become cheaper and cheaper over time.

Because robots have mitigated and even replaced some of the labor-intense human work, more people started to rely on them; therefore, companies' profits have increased, the employees' average daily working hours have decreased, and demand for products has increased. For many decades, people have programmed machines that carry out the duties of humans, such as food and beverage processing, medical therapies, packing and transporting heavy loads, material processing, hygiene maintenance, farming, driving, etc. As time passes, robots have become more precise, efficient, smarter, and more collaborative for people to work with. These changes have revolutionized heavy labor in manufacturing. Robots have improved manufacturing by improving the quality of products and manufactured goods in many different places.

With higher precision, efficiency, and accuracy, people started to bring in robotic inventions into many fields such as pharmaceutical engineering, aerospace engineering, automobile, furniture, architectural and other design industries, along with security checks, stock market industries, weather stations, and many other industries. With the absence of high-technology, the labor of manufacturing is hard to imagine, and it is very difficult to keep up with market competition. Introducing...

The KUKA Robot! One of the robot industries that have revolutionized manufacturing is a German robotics industry, KUKA, which stands for Keller

und Knappich Augsburg. With a variety of uses and applications, KUKA's " 5 and 6 axis robots range from 3 kg to 570 kg, all controlled with a controlled from a common PC platform" (KUKA Robotics). The platform contains all the basic functions, such as I/O Management and path planning. A control panel allows the programming to be checked immediately, with the work visible. The KUKA API could be updated at any time; therefore, users and manufacturers could make edits or new features to the robot to increase accuracy or efficiency (KUKA Industrial Robots). KUKA: Pyraser Brewing Pyraser Bier GmbH & Co KG is a brewing company located in central Germany.

It sells non-alcoholic beverages, and it uses refillable bottles. The company has found a need for a highly effective and flexible packaging system; as a result, Pyraser employs two KUKA KR 150 robots: one takes four crates, each with 80 empty bottles, from the roller conveyor, putting them on a conveyor belt, while the other puts those bottles back in crates, and back on the conveyor system again. It takes the robots about " 9 seconds for filling" one crate with the bottles and " 9. 6 seconds for emptying" it (Jurgen). Most breweries today require a deep understanding of marketing concepts, along with unusual product inventions; therefore, the role of six-axis robots become important to brewing and packaging.

The KUKA KR 150 can hold 150 kg, as four crates of ? liter bottles weigh 80 kg, and the end-effector weighs 70 kg; yet, its capacity can be increased to 200 kg with small technical adjustments, which can increase the efficiency of production. What could KUKA be used for that no one might have thought of? Aside from manufacturing, the KUKA robot could also perform numerous <https://assignbuster.com/automation-precision-and-efficiency-kuka/>

home duties, such as loading the laundry, washing the dishes, preparing meals, cooking food, yard work and emptying out trash cans. Ideally, there would be multiple robots located in various places of the household. The robots would have wheels, along with cleaning tools underneath it. They would perform a set of duties responsible for the room.

For example, there would be a KUKA robot in the basement which recognizes clothes in the laundry basket, categorizes them, pours in detergent, and turns on the washer. It can also detect signals when the turn is over. After putting the washed clothing into the dryer, it puts a new group of clothing into the washer again. After the clothes are dried, the robot will fold them neatly and place it on top of the drying and washing machine. This cycle is continued until no more clothes are left. This eliminates the compulsive behavior of the housekeeper going down to the basement, taking out the clothes, shoving a new heap into the machine, and starting the machine.

Every other day of the week, each robot would clean up the area with its own vacuum, scrub and brush tool. That way, the person would not need to spend extra time cleaning and tidying up the house. KUKA: Australian Mint In the Royal Australian Mint, the KUKA Titan robot, along with its new system, plays a crucial role in the industry. KUKA decants the pallet of blank coins in drums onto the conveyor belt, with a camera to count the coins. When there are no more coins on the conveyor belt, the Manufacturing Execution System (MES) sends broadcasts to an Automated Guided Vehicle (AGV), which brings the drum of blank coins to the KUKA Titan robot, which decants new coins on the conveyor once again, recounting the coins (McConnagie).

The KUKA robot can determine the center of the drum very accurately, therefore there is almost impossible for it to spill the coins on the ground. The KUKA robot also decants finished coins into the containers. The highlight of the mint, though, is not just the robot itself, but the MES, which controls the entire process. The MES “ monitors the production on the ground floor,” and it is it that recognizes the absence of coins in the press. No longer do multiple people need to decant blank or finished coins into the conveyor system or the boxes, as the KUKA robot does the work for them. No longer are coins decanted in cardboard boxes, nor empty drums “ going to waste” (McConnagie).

Conclusion: the Present, the Future Today, numerous manufacturing industries are using KUKA to speed up production. These robots can handle any part of the work, with higher capacities, higher precision, and higher efficiency, increasing the production of goods and the profits of many companies. In 2026, these robots will seep down into people’s private homes, carrying out home duties. Each household would have multiples robots, each one responsible for carrying different tasks in different rooms, with common cleaning tasks. There would be a reduced possibility of people spending extra time cleaning every debris, every inch of a floor, and less moving around the house to pick up the laundry.

There would also be more KUKA robotic toys for younger children to play with and have fun with. Works Cited “ KUKA Industrial Robots – System Software.” KUKA Industrial Robots – System Software. KUKA Roboter GmbH, n. d. Web.

11 Apr. 2016. " KUKA Robotics Introduces New Family of High Speed SCARA Robots." Proquest. Business Wire, 21 Aug. 2006.

Web. 12 Apr. 2016. McConnagie, Dahna. " Robots Make the Coins Go round Downunder." Computerworld, Inc. computer, 20 Aug. 2009. Web. 09 Apr. 2016. Warmbold, Jurgen.

" Robotics Online." Brewery Is More Competitive with Robotic Packaging and Palletizing System. Robotic Industries Association, 08 June 2008. Web. 05 Apr.

2016