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Collaborative robots: The competitive edge in manufacturing

Richa Hallundbæk Misri
Universal Robots, Denmark

There is an eminent difference between the industrial and collaborative robotics markets. The mature market for industrial robots is estimated to reach \$40.08 billion by 2020, at a CAGR of 5.2% from 2014 to 2020. Contrast that with the upstart collaborative robots market that's estimated to reach \$1.07 billion by 2020 at an astounding CAGR of 50.9% over a similar time frame is the reason for this explosive growth in collaborative robots (cobots). An MIT study based on research done at BMW plants found that humans and robots working together in a team can be around 85% more productive than teams made of either humans or robots alone. This is a groundbreaking finding which many forward-looking manufacturers are actively exploiting to keep their competitive edge. The typical application of human robot collaboration is in automotive assembly lines, electronic assembly (like laptops, cellphones and PCB's) and food/consumer goods packaging. Cobots are increasingly being used for screwing, gluing, machine tending, polishing, painting, welding and other assembly line operations. Cobots need a completely different mindset from traditional industrial robots. No more do you need intimidating safety fences (subject to risk assessments of course). These devices can be classified more as advanced industrial tools as they are lightweight, easy to install, setup, program and re-program to solve new tasks. This allows them to meet short run production challenge faced by companies adjusting to any advanced processing in smaller batch sizes. They operate on single phase power, flexible to be ceiling, floor or wall mounted and moved around the shop floor from operation to operation occupying little real estate. These are the reasons cobots are being rapidly deployed in industries with the aim to find the next competitive edge. Entire assembly lines are being redesigned to ensure that human robot collaboration is possible and productivity, quality and safety are maximized. Some call it the 5th industrial revolution as companies are using this technology to cater to the low volume customized runs and re-shore their lost jobs while moving manufacturing nearer to where the consumer is.

rmi@universal-robots.com

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