Cobot integration in manual assembly: proposed methodology and related performance indicator

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Résumé

Human-Robot Collaboration (HRC) is a key concept towards to the 'Industry 4.0'. The collaborative robotics looks exciting with a new technology which can be deployed quite quickly. It is claimed to be a tool to improve the efficiency of the manufacturing operations while minimizing ergonomics issues for human. Through a case study, the study does analyze not only the efficiency gain but also the efforts to develop such solution. The case study is the assembly of a pneumatic cylinder, on which the cycle time of the assembly is measured. Two separate teams test some scenario to evaluate the competencies needed in cobotics and continuous improvement. This case study concludes to a suggested indicator and an emerging method of cobot integration in assembly operations.

Mots-Clés: Cobot, Continuous improvement, Human Robot Collaboration, Operation efficiency, Integration Method

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