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**By: AHMED MOHAMED IBRAHIM SULIMAN OMAR**
**MAIL; S236930@studenti.polito.it**

## ABSTRACT

Nowadays the majority of organizations operating in manufacturing field recognize the importance of including the Human Factor contribution in the industrial process optimization. Technical measures and work organization procedures have been optimized in order to reduce the defects and waste generation, but the Human Performance prediction still represents for Managers a difficult task to deal with. The prediction of the human performances of all workers involved in a production system would help Managers in better allocating the human resources. In order to reach this objective, a model to quantify the human capability of managing a complex task in a working context characterized by a set of physical, organizational and cognitive factors was designed.

The effects of this human factors assessment can contribute to consider necessary areas of improvement in terms of technical measures, procedure optimizations and improved work organization, to reduce defects and waste generation.

The paper presents a brief description of the empirical approach used to assess the workload of complex tasks in assembly lines and the matching operators skillsets; furthermore, it also discusses some of the preliminary results of its application.



**Keywords:** Human Factor, Environmental, oil gas industry, Production, processing ,Quality, Workload, Human Performance, World Class-Manufacturing.