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Implementing Lean Manufacturing Principles for the Improvement of a Failure Analysis Laboratory in High Volume Manufacturing Environment

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Dr. Tashtoush interested in multidisciplinary engineering, especially in the field of simulation and systems design, production quality and management, lean manufacturing, robotics and automation, 3D printing processes, engineering statistical analysis, project management, optimization, instruments and electrical devices reliability, healthcare systems, human factors, systems designs and optimization, and robotics.

Abstract: The success of a production system in the electrical manufacturing industry can be reflected through minimal losses and higher productivity, which will satisfy the customer requirement with the maximum profits. Laboratories are an essential section of any manufacturing plant, they are playing a great role in both the design and development process and the production verification and qualification process. Failure Analysis laboratory is a key part for the Electronics Manufacturing and Service manufacturing system. It is an end-of-line section, and it focuses on the final product quality, including confirming and containing any production failures and preventing them from being delivered to the customers. Improving the FA processes using lean principles were done to identify, reduce and eliminate non-value-added activities and waste. This effort eventually led to an increase in process speed, decrease in production costs, and more profit were realized.

Keywords: Failure Analysis, Lean Manufacturing, Six-Sigma, Laboratory, High-volume Manufacturing Facility