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## **Designing A Copper Busbar Bending Machine Used in Electrical Panels at ADECO Company in Aqraba, Nablus**

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### **Abstract**

In this project, a copper busbar bending machine is designed and built based on a mechatronics system for a copper bending machine. The machine consists of interconnected hydraulic mechanical components that are electrically operated and electronically controlled via a plc programmer. The system is a machine that bends copper rods to make specific angles that can be determined through an input panel. After selecting the desired angle, the user can place the piece of copper to be bent accordingly. The machine was tested for quality of products and 8 pieces of copper were bent at different angles with an accuracy of 99.14%. This quality of produced pieces of copper is good enough for the purpose of the project and customer satisfaction. The machine can be improved using a feed-in mechanism with a laser distance meter to control dimensions of produced pieces of copper. Adding punching and cutting machine will be a significant improvement to the developed machine. Building such machines is significant to enrich domestic industry with machines that can be maintained and improved with local professionals and engineers.