

Tattoo Robot

Multi-Axis

Industry: CPG

Summary

Customer Challenge

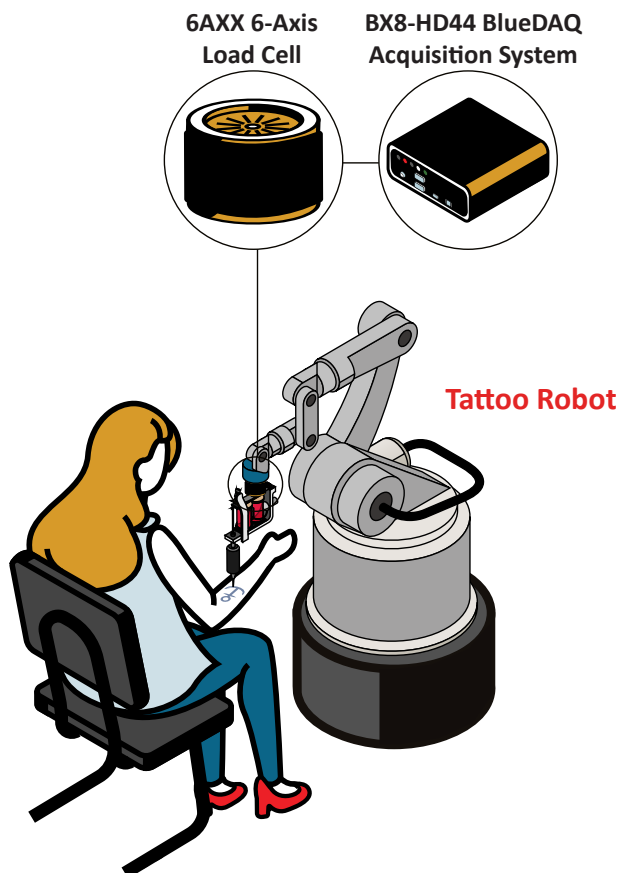
A robotics company developed a tattooing robot operated remotely by a tattoo artist located far from the client. The robot mimics the artist's hand movements in real time. However force and torque of the robot needs to be monitored in all directions, ensuring consistent needle pressure and precision across varying skin surfaces.

Interface Solution

Interface suggests integrating the 6AXX Series Multi-Axis Load Cell into the robotic arm near the needle assembly. The load cell measured forces and torques in all six axes in real time, allowing the system to adjust dynamically to the curves and textures of the skin during movement. When connected to the BX8-HD44 Data Acquisition, data can be logged, graphed, and displayed when connected to a computer with supplied BlueDAQ software.

Results

The tattoo robot was able to replicate the artist's hand movements with high precision while maintaining safe and consistent pressure on the skin.



Materials

- 6AXX Series Multi-Axis Load Cell
- BX8-HD44 BlueDAQ Series Data Acquisition System with included BlueDAQ software
- Robot arm and tattoo needle
- Customer PC or Laptop

How It Works

1. The 6AXX Series Multi-Axis Load Cell is integrated into the robot arm, which is then attached to the tattoo needle.
2. An artist does a tattoo remotely from a distance, and the tattoo robot mimics their movements.
3. The 6AXX Series Multi-Axis Load Cell measured forces and torques in six axes in real time. When connected to the BX8-HD44 Data Acquisition, data can be logged, graphed, and displayed when connected to a computer with supplied BlueDAQ software.