

## Team #8 - ExecuWear



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### Executive Health Wearable

**Abstract:**

The ExecuWear Biometric Sleeve is a wearable device designed to address the health challenges of high-performing professionals and executives who spend extended periods in sedentary, high-stress environments, increasing their risk of cardiovascular complications. This device focuses on continuous monitoring of biometric data, including blood pressure, heart rate, and sedentary time, to provide real-time health insights. The ExecuWear Sleeve empowers users to proactively manage their health and enables physicians to make informed decisions based on reliable, long-term data.

The wearable medical device market is projected to grow from \$45 billion in 2024 to \$151.8 billion by 2029 at a 27.5% CAGR. The ExecuWear Sleeve targets executive professionals and healthcare providers focusing on preventive care and risk management, positioning it as a valuable tool in reducing cardiovascular disease incidence.

The device is a non-intrusive compression sleeve equipped with sensors to capture pulse wave velocity, blood volume, and heart rate, from which blood pressure can be derived. Accelerometers at the wrist, elbow, and bicep detect both active and sedentary behavior, with data transmitted directly to the user's Mayo Clinic patient portal. Each component is selected for durability, power efficiency, and accuracy to ensure consistent performance.

Constructed from a durable polyester-spandex blend, the sleeve uses medical-grade pressure, PPG, and accelerometer sensors sourced from specialized suppliers. Data transmission is handled via a compact Bluetooth module, minimizing hardware and optimizing cost. The device is priced competitively within the wearable health market, balancing affordability, consumer accessibility, and profitability, with a goal of providing the technology to beyond the executive population.