

## Improvements in the Product Evaluation Lab for Wearable Cardioverter Defibrillators

Elif Usta, Caitlin Hillman, Cassidy Hay, Michael Gerry, Zoe Long

### Client Overview

**Company:** Kestra Medical Technologies  
**Product:** The ASSURE system, a Wearable Cardioverter Defibrillator  
**Purpose:** To protect patients at high risk of Sudden Cardiovascular Death (SCD)

### Problem Statement

The current product evaluation lab (PEL) was in need of restructuring—there was a **lack of organization** for the products and tools and **no standardization of processes** once product investigations were started.

### Primary Assumptions

1. PEL has enough space for all projects
2. All engineers know how to do their investigations
3. The engineers are willing to adapt to the changes

### Methods

#### Data Collection

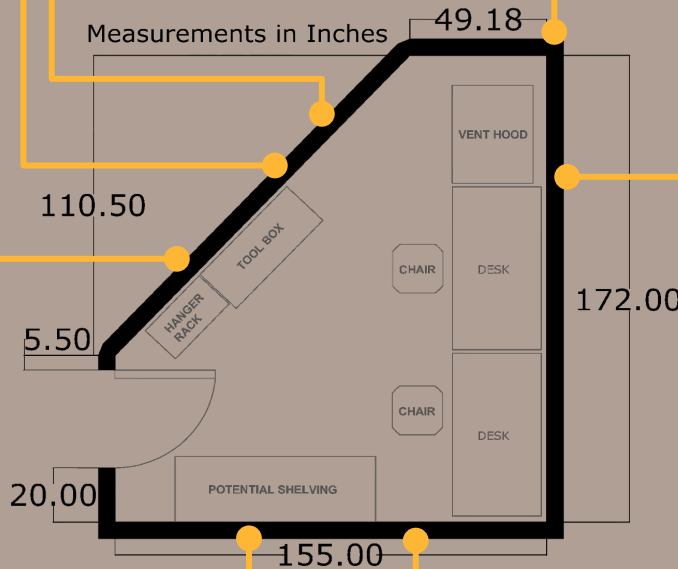
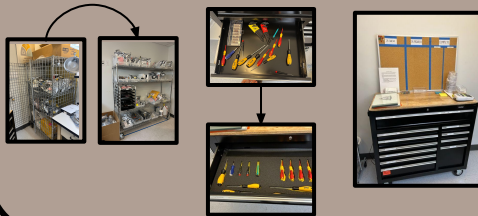
**Survey:** Engineer satisfaction + **Scavenger hunt:** Time study + **5s audit:** Evaluates and improves conditions

#### Implementations

Shelving & tray system

Shadow board

Kanban system



### Analysis

#### Survey

Engineers' opinions of lab were more positive in the survey after implementations compared to the original one.

#### Scavenger hunt

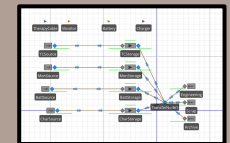
The second iteration of the scavenger hunt (post-implementations) showed a 60% decrease in overall time.

#### 5s audit

Initial outcome of the 5s audit was 82/145. After the changes it was 103/145.

#### Simio model

This simulation was used to find the point the system would reach capacity.



### Impact



**\$14,892** cost savings projected over a year



**60%** decrease in time to complete tasks



**40%** increase in employee satisfaction with the lab

### Sustainability



5s audit Schedule created to maintain 5s values



Shelving and tray adaptability + space for growth



Simio predictive model to show "breaking point"