SQUARE-1 ENGINEERING

CASE STUDY

MANUFACTURING PROCESS IMPROVEMENTS

OVERVIEW

A developer of angioplasty treatments struggled with an inefficient pilot manufacturing process. Training new personnel took over a month, and each unit required several hours to assemble. Frequent quality issues downstream compounded the problem, stalling progress toward commercial scale-up.

CLIENT NEEDS

Training new production associates took over 30 days, creating a bottleneck that limited how quickly the team could scale operations.

Each unit required several hours to assemble, straining resources and delaying delivery timelines.

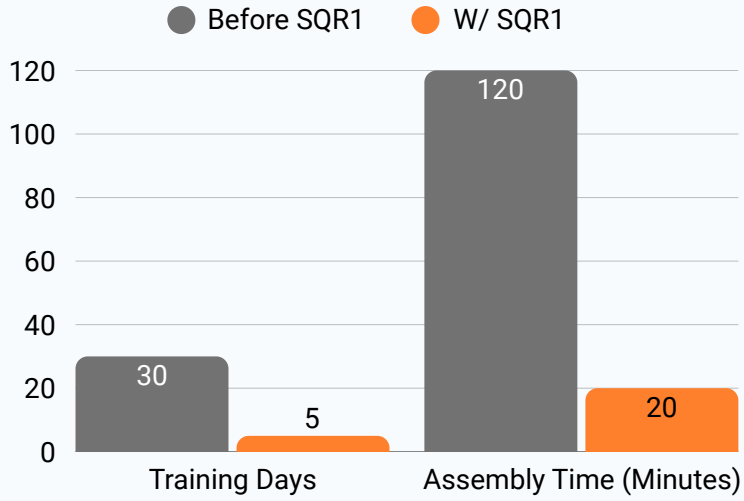
Frequent downstream quality issues led to high scrap rates and rework, preventing the team from validating the process for commercial production.

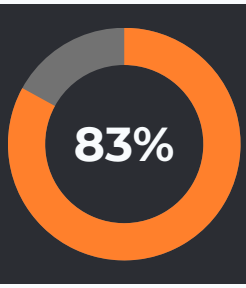
SQR1 IMPACT

Solutions from SQR1:

- Developed and implemented process improvements using exotic materials and magnetics to preserve product form and delicacy
- Designed custom tooling and sourced new production equipment
- Created and rolled out new operator training procedures

Team: Sr. Manufacturing & Operations Engineer, Project Manager





Reduced training time by 83% and cut per-unit assembly time from 2 hours to 20 minutes

ABOUT SQR1

At Square-1 Engineering, we provide technical consulting services across the entire medical device product life cycle from product ideation to obsolescence. Our skilled engineering and compliance teams take on projects of all sizes in R&D Engineering, Quality & Compliance, Regulatory (RAQA) and Manufacturing Engineering.

When Companies Need Us:

Regulatory Events
Loss of Key Personnel
Rapid Company Growth
Lacking SME
Audit Preparedness
Bandwidth Constraints
Next Gen Development
M&A Support
Facility Moves & Transfers
Change in Supply Chain

Capabilities

Engineering & Ops: Square-1 provides engineering and operational expertise needed across the entire product development lifecycle.

Regulatory & Compliance: We help clients build quality and regulatory practices which protect the business while enabling it to move forward.

Executive Strategy: Seasoned medtech executives who help organizations navigate growth, solve complex challenges, and execute strategic initiatives.

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