# USC CONSULTING GROUP HELPS MEDICAL DEVICE MAKER **STREAMLINE WORKFLOWS**

USC CONSULTING GROUP™

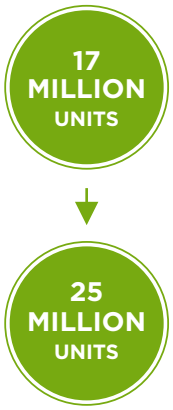
Empowering. Performance.

# THE **CLIENT**

A major medical device manufacturer operating worldwide.

# THE **CHALLENGES**

The client initially approached USC Consulting Group in late 2016 with the intention of optimizing its intravenous therapy bag production processes. These workflows suffered from a number of fairly serious operational deficiencies that, together, hamstrung throughput rates. The organization called in the USCCG team for an intense 14-week engagement, during which time our consultants increased the annual throughput rate from 17 million units to 25 million units. The client re-engaged USCCG in 2017 with the aim of implementing significant and sustainable operational improvements to address several salient production problems, including:




### *Problem No. 1: Falling throughput rates*

The client realized that the first engagement with USCCG was simply too short to deeply impact the needed cultural changes. They found that they could not maintain the improved throughput rate.

They incurred a slippage rate of 3 million annualized units. The company linked this outcome to lengthier Clean-In-Place (CIP) times, which were in turn the product of ineffective batch readiness best practices. The reality was that shop floor teams were simply not working as efficiently as possible and therefore could not maintain consistently strong throughput rates, even with tried-and-true strategies for boosting productivity in hand.

### *Problem No. 2: Ineffective maintenance procedures*

The client was running a deficient maintenance management operating system. Stakeholders in this department consistently struggled to ascertain critical spare volumes and troubleshoot production asset issues due to an absence of formalized problem-solving and escalation protocols.

Additionally, technicians worked without a detailed equipment hierarchy, meaning mission-critical assets were sometimes delayed over less important duties. Department coordination was an issue as well, resulting from inadequate communication channels between Maintenance Planners and Production Schedulers. Finally, project managers failed to consider maintenance technician skill levels when doling out assignments, leading to execution issues.

### *Problem No. 3: Inadequate quality control practices*

This medical device manufacturer was experiencing widespread quality issues relating to various functional deficiencies. The engineering and operations groups were not properly identifying and assessing defects, leading to higher-than-acceptable reject rates.

With these issues in play, USCCG embarked on an extended 24-week project beginning in late 2017.

## THE **SOLUTIONS**

Our consultants developed a number of solutions designed to address the above issues.

### *Solution No. 1: Streamlined CIP processes*

The client not only hoped to recover the throughput gains generated during its first engagement with USCCG but also sought to catalyze additional run rate increases and eventually break the 35 million unit threshold. With this goal in mind, our consultants went to work. They started by streamlining the existing CIP processes by introducing batch readiness guidelines and implementing changeover rules. This led to a significant reduction in CIP time, giving operations and maintenance teams the structure they needed to work efficiently. The average changeover period dropped from 75 minutes to 40 minutes.

### *Solution No. 2: Formalized maintenance workflows*

USCCG first tackled the maintenance escalation process, which was essentially nonexistent. Technicians would regularly execute in an unfocused manner, devising solutions that either did not work or served only to kick the can down the road, as it were. Some maintenance personnel would abandon tasks altogether if they could not develop a viable repair strategies. Our consultants addressed these issues by working with the staff to develop formalized escalation protocols that not only emphasized immediate action but also incentivized quality.

The USCCG team addressed technician deployment as well, for this was another significant issue hampering maintenance operations. The client relied on workforce management processes centered on a mixed group of maintenance generalists and engineering specialists.

While the former could easily float between shop floor assets, they could not take over jobs from the latter, which meant that the operation would get stuck without the right talent in some cases as a result of scheduling. USCCG swapped this model for an alternative approach wherein maintenance technicians and their colleagues from the engineering group were assigned to specific machines. This catalyzes a culture of ownership and created natural channels for escalation.

Our consultants looked also into the issue of technician competency. Skill level varied drastically within the maintenance department. While some specialists in the group displayed great technical skill, others were not as competent and sometimes degraded equipment quality while attempting to apply repairs. The USCCG team worked with internal stakeholders to bring technicians up to speed and lend them the knowledge they needed to properly maintain shop floor equipment.

Finally, USCCG looked at maintenance operations in relation to batch changeovers. Ineffectual scheduling and coordination practices were slowing batch transitions, as maintenance technicians seemed to wander in and out during these prolonged moments of planned downtime without direction and hard deadlines for completing preventive maintenance work. Our consultants developed and deployed a new model wherein maintenance teams moved to implement pre-scheduled maintenance during changeovers as quickly and effectively as possible.

### *Solution No. 3: Strengthen quality control operations*

Like the maintenance department, the quality control group suffered from a lack of escalation workflows. While the company's existing quality control team could effectively pinpoint defects due to engineering and production deficiencies, it could not address these root causes. USCCG moved away from this approach and got the engineering division involved. This collaborative approach allowed the quality control team to identify skewed upper and lower control limits and narrow these parameters, leading to a 15 to 20 percent reduction in defects.

# THE **OUTCOMES**

These changes ultimately made an immense impact within the organization. The CIP time and defect reductions, along with the improved maintenance processes, allowed the client to achieve a throughput rate of 30 million units within the initial few weeks of the engagement, an increase of 76 percent over the figure recorded prior to USCCG's involvement. The medical device maker closed out the 2018 fiscal year running near 40 million and it is on track to sustain this productivity.

Is your medical device manufacturing firm looking to achieve similar results? Connect with USC Consulting Group today to learn more about our work in the Life Sciences space and how our team can position your organization for success.

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