Analysis and action-plan for reducing operational and maintenance costs, at Teflan Industries protocols & procedures, by at least $2.5M/year, by restructuring, setting QC and rationalizing over-head of non-core assets.

Context

Teflon Industries has seen a downturn in profits and production quality, directly arising from inadequate QC, specifically in one of its 2 major facilities. 1 in 4 pumps, sent out are returned as defective, costing up to 5M annually in warranty claims. Management has expressed a desire to improve QC procedures and reduce claims for at least 50% annually.

Criteria for success

QC System adoption at facility A and implementation of adequate worker/machine protocol, no later than January 1, 2023.

Scope of Solution Space

1. Investigate QC procedures in facility B vs facility A, compare and describe procedure's strengths and weaknesses within 1 Week.
2. Adopt a new QC scoring system at factory A, a 1 month pilot program, and reevaluate differences in Quality output.
3. If findings, at Point 1 direct toward improvement, implement additionally identified protocols of worker/machine interaction.
4. Project points 1, 2,and 3 within 1, 2 and 3 months, with monthly re-evaluations of applied changes and compare results between A, B, past and present.

Constraints within solution space

- A large number of OsiSoft PI Tags have N/A values over significant time frames. Some form of linear interpolation or other feature engineering will be needed.
- There does not exist a ‘benchmark’ score as to when the pump is to be reviewed based off a set score.

Stakeholders to provide key insight

- Jim Collins (QC Manager)
- Frodo Lilich (QC Engineer)
- Jaine Vulvoich (QC Analyst)
- Ling Zhuong (Senior QC Engineer)

Data sources

- OsiSoft PI Database – contains all pump data.
- PumpView System – provides OEM specification data and logs pump maintenance events.
- HIRO Systems – Production System Environment.