SPK and Associates

Product Lifecycle Management (PLM) Automated Metrics

Our client is a leading medtech company with 46k employees. Earlier this year, they faced the challenge of improving the efficiency of their Product Lifecycle Management (PLM) process. To stay competitive, they needed to identify bottlenecks within their manufacturing processes and identify areas for improvement. Failure to address these challenges would result in potential time and profit losses. After initial attempts to resolve the issues internally proved unsuccessful, the company approached SPK and Associates.

THE PROBLEM

The PLM process within the company:

- Suffered from inefficiencies in analyzing output.
- Lacked automated metrics to identify bottlenecks.
- Additionally, manual data organization and graph generation in Excel consumed significant time and resources.

Without a solution, critical issues such as prolonged bottlenecks and inefficiencies would persist. Ultimately, these would filter through to their bottom line and would negatively affect it.

THE SOLUTION

To address these challenges, the project sponsor, Steve, collaborated with SPK for our technology consulting expertise. Together, we developed a Python script that could extract and translate data from onePLM and Creo into graphs. Now these could display essential metrics. Technologies such as VS Code, Python, Excel, onePLM, and SWPDM were also utilized.

The approach to a successful delivery saw the project divided into three phases:

01 RESEARCH	02 MANUAL GRAPH GENERATION	03 AUTOMATION
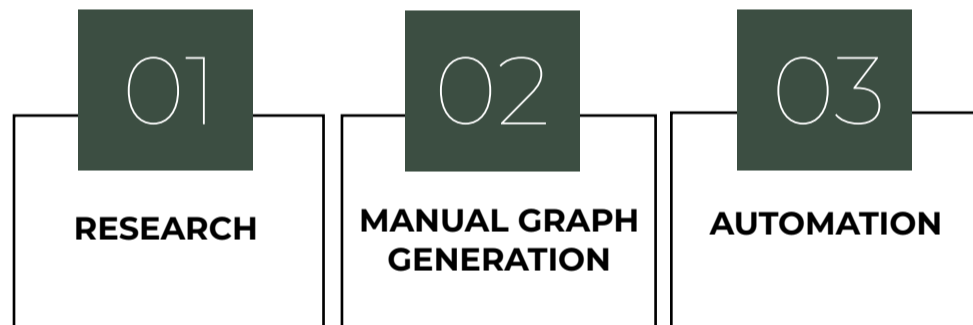
The first and second phases were almost simultaneous and took about 70 hours over the course of 6 weeks.

- EARLIER ERROR IDENTIFICATION
- 70 HOURS TO DELIVER
- 7 HOURS P/D SAVED

THE RESULTS

The implemented solution delivered significant benefits to our client. For example:

- The automated metrics provided actionable insights enabling the identification of negative trends in key areas, such as the time taken to release Design Release Work Orders (DRWs) and the rate of DRW rejections. By addressing these issues promptly, Steve and his team reduced DRW release time. This resulted in increased product sales and cost savings.
- Additionally, the automation of data analysis and graph generation saved considerable time. What used to take hours or even days of manual effort could now be completed in just minutes. The time savings were estimated to be approximately 7 hours per analysis, allowing the team to focus on more value-added tasks.
- Moreover, the graphical representation of data improved the quality of the PLM process. It became easier to identify process steps with execution errors or inefficiencies, such as mislabeling or omitting Engineering Change Order (ECO) numbers. Armed with this information, our client could now take targeted actions to address these issues and combat negative trends. For example, by restricting the comments field to only ECO numbers.

Looking ahead, the project laid the foundation for future automation phases. The completion of the research and manual graph generation phases within approximately six weeks demonstrated the potential for further improvements and scalability.

> ❝ **WE'RE DELIGHTED WITH THE SOLUTION. 7 HOURS SAVED PER DAY FROM MANUAL LABOR ANALYSIS IS NEARLY ONE FULL FTE SAVED FOR THE ENTIRE YEAR. ADDITIONALLY, IT'S EFFICIENCIES THAT WILL FILTER TO OUR BOTTOM LINE AND REDUCE ERRORS. I WOULD DEFINITELY WORK WITH SPK AGAIN.** ❞
>
> *Customer Quote*

CONCLUSION

Through their collaboration with SPK, our client successfully transformed their PLM process, addressing inefficiencies and improving key metrics. The implementation of automated metrics resulted in significant time and cost savings, enhanced efficiency, and improved product quality.

This case study showcases the power of technology-driven solutions in revolutionizing operational processes within the medical technology industry, ultimately driving success and competitiveness for companies like this medtech company.

If you need support optimizing your PLM processes, contact our team here.